VFR Flight Planning

Contents

Introduction

.

Required Items

Prerequisites

- *Successful completion of the ONLINE Navigation Lesson and Foreflight Scenarios.*
- *Thorough understanding of all concepts involved in VFR flight planning*

iPad

- *ForeFlight*

Books & Publications

- *Cessna 172n Model POH (iPad)*
- *Airport Facility Directory (AF/D) (iPad)*
- *Current paper sectional for areas of flight - ForeFlight sectionals are not acceptable for this exercise*
- *3 copies of the Nav Log*
- FGA *Weight & Balance Form*
- *Airworthiness Checklist*
- *VFR Flight Planning Supplement Worksheet*

Tools

- *Plotter*
- *E6B computer*
- *Calculator*
- *Scratch paper and pencil*

For Your Checkride

- *The POH for your n-numbered checkride aircraft*
- *The maintenance logbook for your n-numbered checkride aircraft*

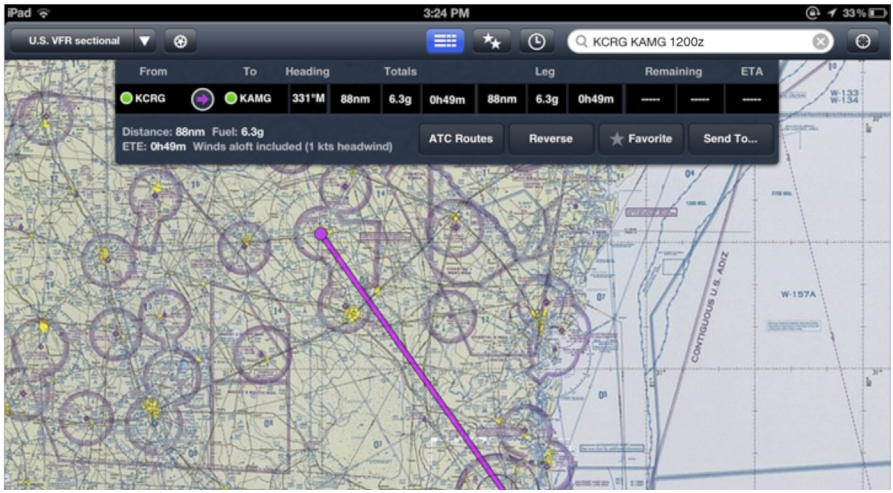
Initial Planning Overview

Resources

- *ForeFlight*
- *POH*
- *Scratch paper and pencil*

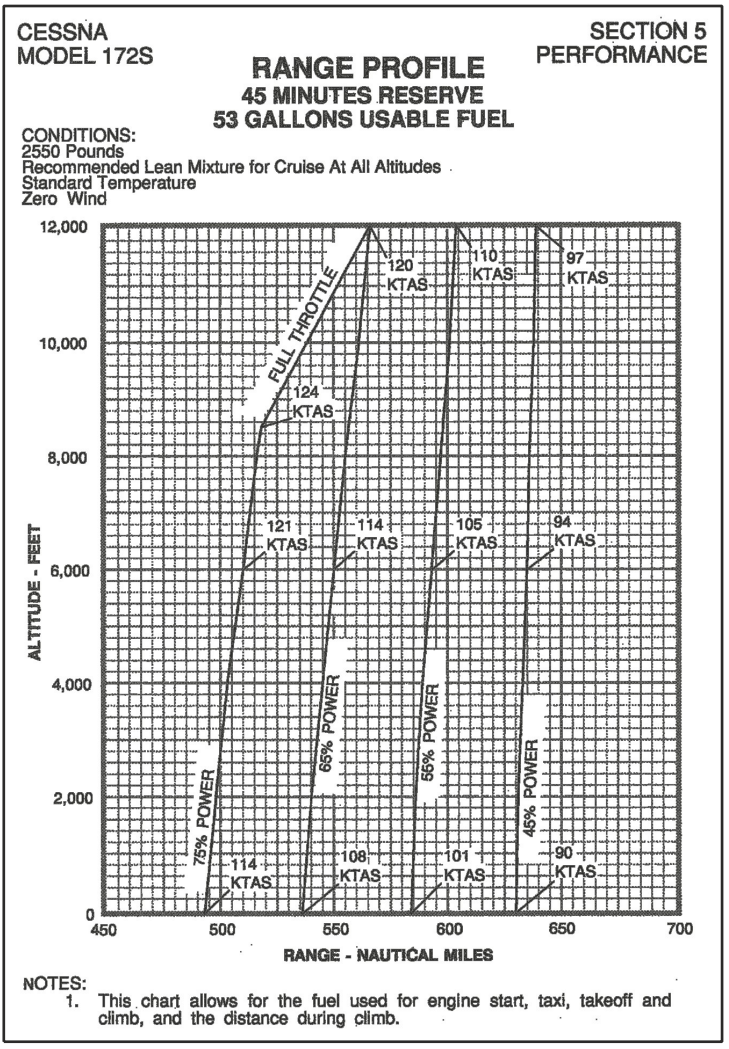
Complete Table 1.1 on the VFR Flight Planning Supplement Worksheet.

1. Open ForeFlight, and view a sectional in the Maps tab. Create a straight line between the two airports using the Search Airport or Route box, and add your UTC departure time into the search box.



2. In ForeFlight, look at the total straight-line distance in the nav log bar that appears. Consider the possibility of needing to stop for fuel.

Look for range information in the Performance section - “Range Profile” Chart of the POH to verify for your specific aircraft. View the range for an estimated altitude of 2,000 to 4,000 feet above terrain elevation. If you actually plan to fly this flight, be sure you are adhering to specific FGA fuel policies in the Safety Practise and Procedures.



The following fuel limitations apply to all operations in FGA aircraft.

The maximum duration of flight limitation is based on the airplane's fuel tank capacity.

Less than 48 gallons ..... **2:30 duration**
48 gallons or greater..... **3:30 duration**

FGA policy is for all flights to depart with full fuel tanks unless operational necessity dictates otherwise.

CHECKRIDE FACT	For the checkride, you are required to plan to your first fuel stop.

Complete Table 1.2 on the VFR Flight Planning Supplement Worksheet.

Complete Aircraft Number and Route in the Nav Log.

Aircraft Number: *N753GW*	Route: *KCRG - KAMG*
~~Notes:~~ ~~*Avg Winds Aloft:*~~ ~~*Avg Temps:*~~ *Avg GS:* *Avg TAS:*	

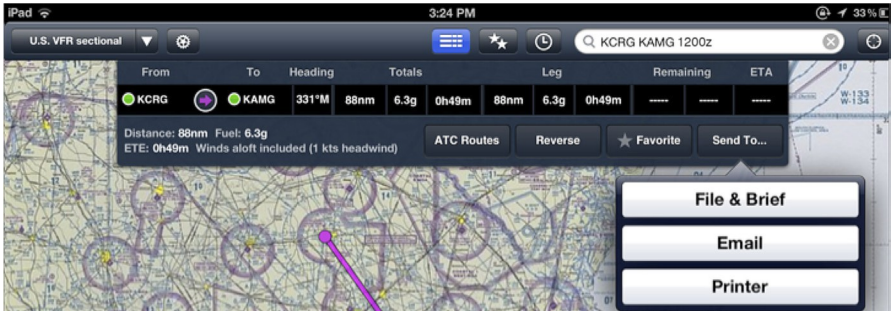
3. Conduct a survey of the straight-line route on your ForeFlight sectional. Consider factors around the straight line to find the best route for navigation and safety.

Complete Table 1.3 and 1.4 on the VFR Flight Planning Supplement Worksheet.

Weather

NOTE: If WiFi is unavailable, get a weather briefing from another approved source.

4. Conduct a weather analysis using weather overlays in ForeFlight. Review FGA's *Plan. Brief. File.* video for methods.



5. View your straight-line flight route and accurate ETD in the nav log bar. Click the Send To… button, and select File & Brief. Fill out all required information and select Brief in the lower right-hand corner. View the information. This is a legal briefing. You'll need to refer to it throughout the planning process.

Complete Table 1.5 on the VFR Flight Planning Supplement Worksheet.

NOTAMs & PIREPs

6. View the NOTAMs for your route of flight in your briefing.

Complete Table 1.6 on the VFR Flight Planning Supplement Worksheet.

CHECKRIDE FACT	Save all weather information you use for flight planning to show the examiner. You must have a record that your planning was based on real weather information.

Departure Information

Resources

- *ForeFlight*
- *POH*
- *Airport Facility Directory (AF/D)*
- *Calculator*
- *Airworthiness Checklist*

1. Determine passengers and cargo. Consider necessary survival items, if an off-airport landing must be made in terrain or water.

2. Using FGA's Airworthiness Checklist, complete your weight and balance calculations through takeoff totals.

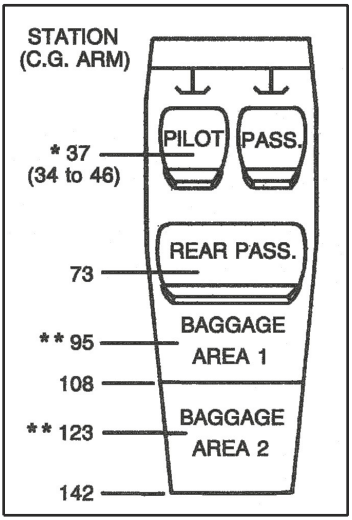
CHECKRIDE FACT

You must use the weight and balance information from the POH of your n-numbered checkride aircraft to get accurate data. Verify you are using the correct Center of Gravity Range Chart for your specific aircraft.

Sample

C172S

BEW..... 1,641 lbs
ARM..... 38.12 in
MOMENT..... 62,600 lb-in



1. *Basic Empty Weight* - Find the BEW, ARM, and MOMENT, in the Weight and Balance section of the POH or Maintenance Log Book.
2. *Front Passenger Seats* - Add the weights of yourself and your instructor, examiner, or passenger. Locate the ARM of the Front Passenger Seats, and multiply by the weight to get the MOMENT.
3. *Rear Passenger Seats* - Add the weights of any load you will be placing in the back seats. Locate the ARM of the Rear Passenger Seats, and multiply by the weight to get the MOMENT.
4. *Baggage Compartment* - Add the weights of the loads in the baggage compartment. Include the case of oil and any other items that stay in the compartment. Locate the ARM of the Baggage Compartment, and multiply by the weight to get the MOMENT.
5. *Zero Fuel Weight* - Add weights 1 through 4 to get zero fuel weight. Add MOMENTS 1 through 4.
6. *Fuel* - Find the fuel capacity in gallons in your POH, and multiply by 6lbs to get the weight. Locate the ARM for the fuel tanks, and multiply by the weight to get the MOMENT.

FGA policy is for all flights to depart with full fuel tanks unless operational necessity dictates otherwise.

---

7. *Ramp Weight* - Add weights 5 and 6 to get ramp weight. Add MOMENTS 5 and 6.
8. *Fuel Used for Start/Taxi/Takeoff* - Find this number in the Performance Section of the POH, typically in a Fuel, Time, Distance to Climb chart for 172s. List it in pounds. Since you are losing weight, this will be a negative number. Multiply by the fuel tanks ARM to get the MOMENT. This will be a negative MOMENT.

   C172N..... **1.1 gallons = 6.6 lbs.**
   Cessna 310 ..... **2.67 gallons = 16.0 lbs**

9. *Takeoff Totals* - Add your burned fuel to get your takeoff weight. Add the MOMENTS to get your Takeoff MOMENT.
10. Divide Takeoff Moment by Takeoff Weight to get your Takeoff CG.

3. Using FGA's Airworthiness Checklist, mark your takeoff weight and CG in the CG envelope chart. Verify it is within limits. You will complete your weight and balance information for landing once fuel burn is determined.

Departure Airport Information

4. To determine if you can safely depart, view your departure airport in the Airports tab in ForeFlight. Verify the information with the AF/D.

Complete Table 2.1 through 2.3 on the VFR Flight Planning Supplement Worksheet.

5. Verify that you can takeoff and achieve initial climb performance necessary to make the flight. Enter your Takeoff Distances on FGA's Airworthiness Checklist.

NOTE: Read all conditions and notes in the performance charts before beginning. Often times you'll need to decrease or increase a distance value for nonstandard temperature, winds, or density altitude.

CHECKRIDE FACT

Use the Performance charts for the specific aircraft you will be flying in the checkride.

Older models with upgraded engines will have supplements at the end of the POH that alter performance data.

SECTION 5
PERFORMANCE

CESSNA
MODEL 172S

SHORT FIELD TAKEOFF DISTANCE AT 2550 POUNDS

CONDITIONS:

Flaps 10°
Full Throttle Prior to Brake Release
Paved, level, dry runway

Zero Wind
Lift Off: 51 KIAS
Speed at 50 Ft: 56 KIAS

Press Alt In Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst
S. L.	860	1465	925	1575	995	1690	1070	1810	1150	1945
1000	940	1600	1010	1720	1090	1850	1170	1990	1260	2135
2000	1025	1755	1110	1890	1195	2035	1285	2190	1380	2355
3000	1125	1925	1215	2080	1310	2240	1410	2420	1515	2605
4000	1235	2120	1335	2295	1440	2480	1550	2685	1660	2880
5000	1355	2345	1465	2545	1585	2755	1705	2975	1825	3205
6000	1495	2605	1615	2830	1745	3075	1875	3320	2010	3585
7000	1645	2910	1785	3170	1920	3440	2065	3730	2215	4045
8000	1820	3265	1970	3575	2120	3880	2280	4225	2450	4615

NOTES:

1. Short field technique as specified in Section 4.
2. Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum RPM in a full throttle, static runup.
3. Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
4. For operation on dry, grass runway, increase distances by 15% of the "ground roll" figure.

Route & Waypoints

Resources

- *Paper sectional(s)*
- *ForeFlight*
- *POH*
- *E6B*
- *Plotter*
- *Calculator*

1. On your paper sectional, create waypoints and connect them with straight lines using your plotter.

2. Choose your first waypoint around 5 miles away from your departure airport. Continue to choose waypoints fairly close together for the first 20 - 25 miles. This prevents you from having to fly an extremely far distance with your examiner, helps with pilotage in the climb, and reduces cumulative errors of dead reckoning during your actual flight.

3. After all waypoints are created on your paper sectional, use your plotter to measure true course and distance. Note the magnetic variations for the waypoints.

4. Estimate your top of climb and top of descent points. Approximate figures for climb distance are as follows:

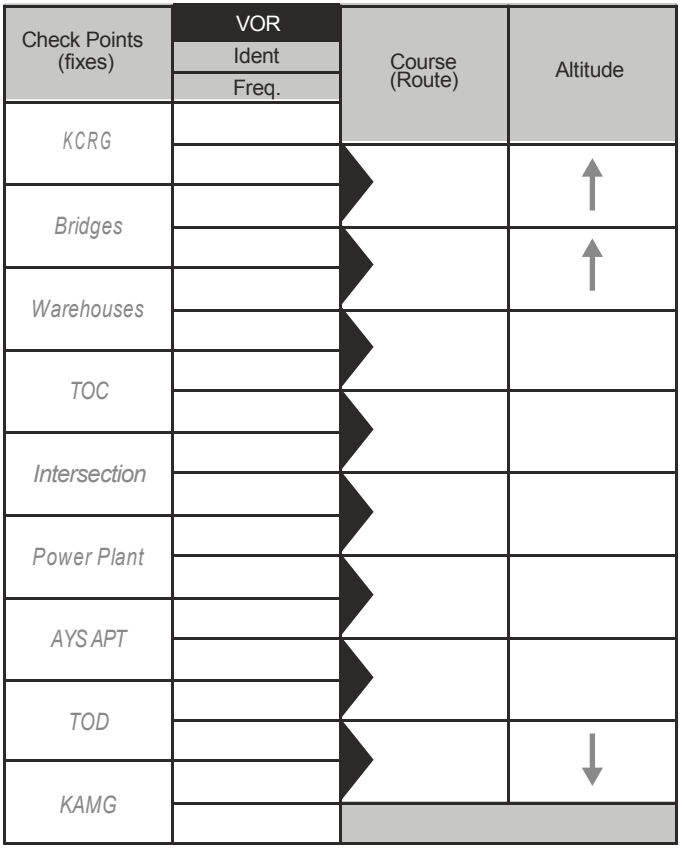
Total Climb of 3,000 ft	**8 miles**
Total Climb of 4,000 ft	**10 miles**
Total Climb of 5,000 ft	**12 miles**
Total Climb of 6,000 ft	**15 miles**
Total Climb of 7,000 ft	**18 miles**

Mark your TOC and TOD points on the paper sectional, along your route of flight.

NOTE: Your actual distance in the climb will be computed later, and will differ depending on winds and field elevation.

Complete Table 3.1 on the VFR Flight Planning Supplement Worksheet.

5. List your waypoints under the Checkpoints(fixes) column of your Nav Log. List each True Course under the Course(Route) column. Put arrows in the altitude column to signify climb and descent.



6. Choose an altitude for your flight. Remember the minimum safe altitude based on terrain, and consider airspace avoidance. Comply with the hemisphere rule, and VFR altitudes. Initial enroute heading of 360° - 179° - odd altitudes. Initial enroute heading of 180° - 359° - even altitudes. Get the pressure altitude by correcting your planned altitude for the altimeter setting on Table 2.3.

Complete Table 3.2 on the VFR Flight Planning Supplement Worksheet.

7. List your altitudes, including departure field elevation, cruise, and destination field elevation in the Altitude column of the Nav Log.

8. Return to your weather briefing in ForeFlight to review forecast winds and temperatures aloft. In ForeFlight, you will see all weather stations that you pass along your route of flight. Interpolate between altitudes and use the standard lapse rate to determine winds aloft at your altitude. If you travel over more than one weather station, use more than one wind and temperature value. Verify that the forecast is valid for your departure time.

Complete Table 3.3 on the VFR Flight Planning Supplement Worksheet.

Performance & Navigation

Resources

- *ForeFlight*
- *POH*
- *E6B*
- *Calculator*

Climb/Descent Speed, Fuel, Distance, and Time

1. Determine your climb and descent speeds. In the Performance section of the POH, look at any Climb and Descent charts that exist. If descent speeds do not exist, plan on descending at cruise speed.

SECTION 5 PERFORMANCE — CESSNA MODEL 172S

TIME, FUEL AND DISTANCE TO CLIMB AT 2550 POUNDS

CONDITIONS:
Flaps Up
Full Throttle
Standard Temperature

PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB FPM	FROM SEA LEVEL		
			TIME IN MIN	FUEL USED GAL	DIST NM
S.L.	74	730	0	0.0	0
1000	73	695	1	0.4	2
2000	73	655	3	0.8	4
3000	73	620	4	1.2	6
4000	73	600	6	1.5	8
5000	73	550	8	1.9	10
6000	73	505	10	2.2	13
7000	73	455	12	2.6	16
8000	72	410	14	3.0	19
9000	72	360	17	3.4	22
10,000	72	315	20	3.9	27
11,000	72	265	24	4.4	32
12,000	72	220	28	5.0	38

NOTES:

1. Add 1.4 gallons of fuel for engine start, taxi and takeoff allowance.
2. Mixture leaned above 3,000 feet for maximum RPM.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperature.
4. Distances shown are based on zero wind.

2. Determine distance and time to climb, considering departure field elevation and cruise altitude. Use the Fuel, Time, and Distance to climb chart.

CHECKRIDE FACT	Use the performance charts from the POH of the specific aircraft you will be flying for all performance calculations. If you are flying an airplane with a modified engine, refer to all supplements for modified performance data.

Example 4.1

Field elevation is 1,100 feet, and we are climbing to a pressure altitude of approximately 4,500 feet. Since 4,500 feet pressure altitude does not exist on the chart, we'll average the figures between 4,000 and 5,000 feet.

So, from sea level, it would take us 7 minutes, 1.65 gallons, and 9.5 miles to reach 4,500 feet.

Since we'll be departing from 1,100 feet pressure altitude, we'll use the 1,000 feet figures, and subtract them from TOC altitude data. So, to climb from 1,100 feet to 4,500 feet, it should take us approximately

7	-	1	=	6 minutes
1.64	-	0.4	=	1.25 gallons
9.5	-	2	=	7.5 miles

In this case, our notes say the following:

NOTES:

1. Add 1.1 gallons of fuel for engine start, taxi, and takeoff allowance.
2. Mixture leaned above 3,000 feet for maximum RPM.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperature.
4. Distances shown are based on zero wind.

We must factor in the temperatures for our initial legs, starting with the forecasted departure airport temperature. A strong head or tailwind can affect these figures, so while you don't need to make an adjustment in your math, be aware of it as you complete your flight.

3. Using the Calibrated Airspeed table in the Performance section of the POH, convert your IAS figure to CAS. Using your E6B, compute Climb and Descent TAS based on temperature and altitude. Using calibrated airspeed to calculate true airspeed will give you more accurate figures.

CESSNA
MODEL 172S

SECTION 5
PERFORMANCE

AIRSPEED CALIBRATION

NORMAL STATIC SOURCE

CONDITION:

Power required for level flight or maximum power descent.

FLAPS UP												
KIAS	50	60	70	80	90	100	110	120	130	140	150	160
KCAS	56	62	70	78	87	97	107	117	127	137	147	157
FLAPS 10°												
KIAS	40	50	60	70	80	90	100	110	---	---	---	---
KCAS	51	57	63	71	80	89	99	109	---	---	---	---
FLAPS 30°												
KIAS	40	50	60	70	80	85	---	---	---	---	---	---
KCAS	50	56	63	72	81	86	---	---	---	---	---	---

Complete Table 4.1 and 4.2 on the VFR Flight Planning Supplement Worksheet.

Cruise TAS

4. Compute your planned airspeed for the cruise portion of your flight.

Use the "Cruise Performance" chart in the Performance Section of your POH. Find the closest altitude and get cruise performance data.

CHECKRIDE FACT

Use the performance charts from the POH of the specific aircraft you will be flying for all performance calculations. If you are flying an airplane with a modified engine, refer to all supplements for modified performance data.

NOTE: Every time the temperature changes, your TAS should change - even small changes should be noted.

CESSNA
MODEL 172S

SECTION 5
PERFORMANCE

CRUISE PERFORMANCE

CONDITIONS:
2550 Pounds
Recommended Lean Mixture At All Altitudes (Refer to Section 4, Cruise)

PRESS ALT FT	RPM	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BHP	KTAS	GPH	% BHP	KTAS	GPH	% BHP	KTAS	GPH
2000	2550	83	117	11.1	77	118	10.5	72	117	9.9
	2500	78	115	10.6	73	115	9.9	68	115	9.4
	2400	69	111	9.6	64	110	9.0	60	109	8.5
	2300	61	105	8.6	57	104	8.1	53	102	7.7
	2200	53	99	7.7	50	97	7.3	47	95	6.9
	2100	47	92	6.9	44	90	6.6	42	89	6.3
4000	2600	83	120	11.1	77	120	10.4	72	119	9.8
	2550	79	118	10.6	73	117	9.9	68	117	9.4
	2500	74	115	10.1	69	115	9.5	64	114	8.9
	2400	65	110	9.1	61	109	8.5	57	107	8.1
	2300	58	104	8.2	54	102	7.7	51	101	7.3
	2200	51	98	7.4	48	96	7.0	45	94	6.7
	2100	45	91	6.6	42	89	6.4	40	87	6.1
6000	2650	83	122	11.1	77	122	10.4	72	121	9.8
	2600	78	120	10.6	73	119	9.9	68	118	9.4
	2500	70	115	9.6	65	114	9.0	60	112	8.5
	2400	62	109	8.6	57	108	8.2	54	106	7.7
	2300	54	103	7.8	51	101	7.4	48	99	7.0
	2200	48	96	7.1	45	94	6.7	43	92	6.4

Complete Table 4.3 & 4.4 on the VFR Flight Planning Supplement Worksheet.

5. List the winds aloft and temperatures from Table 3.3 in the *Wind* column of the Nav Log. List the TAS for each leg in the *TAS* column of the nav log. Remember to plan your descent using Cruise Performance charts if you do not have specific descent charts.

Check Points (fixes)	Ident Freq.	Course (Route)	Altitude	Dir Vel Temp	CAS	TC -L+R WCA	TH -E+W Var	MH +/- Dev	CH	Leg Rem
KCRG										
		290	*41'*	*320 4 32*	*76*					
Bridges										
		290		*320 4 32*	*76*					

6. Use the "3 : 1 Rule" to determine your descent distance at cruise ground speed. Time and fuel to descend will be calculated as part of cruise calculations later. If planning for a Seminole, use the Fuel, Time, and Distance to Descend chart in the POH.

$$\text{Distance to Descend} = \frac{\text{Altitude to Lose} \times 3}{1000}$$

Example 4.2

At 4,500 feet in cruise, you must descend to a pattern altitude of 1,300 feet. You must lose 3,200 feet of altitude. Your TAS is 109 knots.

$$\text{Distance to Descend} = \frac{3200 \times 3}{1000} = 9.6 \text{ miles}$$

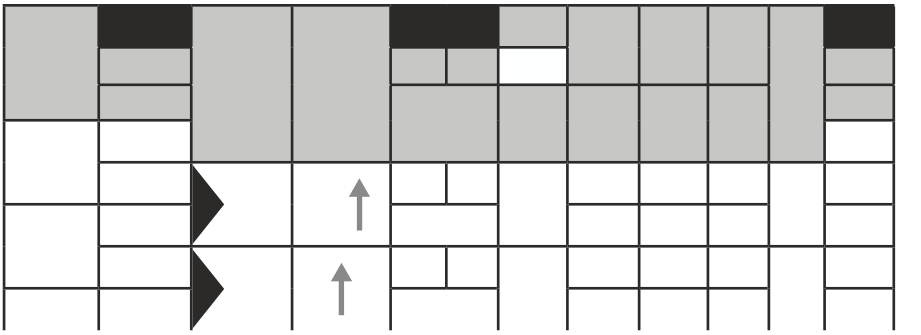
Complete Table 4.5 on the VFR Flight Planning Supplement Worksheet.

Heading & Fuel Calculations

7. Calculate your true headings, using your E6B computer. True heading (TH) is true course (TC) corrected for winds. You must use your true course, since winds are always given in reference to true, not magnetic north. Copy the true course from Table 3.1 in the *TC* column on the Nav Log. Correct the true course for the winds and note the wind correction angle (WCA) or the direction in which you will turn into the wind to establish your crab angle. List each in the *WCA* column on the Nav Log. List your ground speed from each calculation in the *GS* column of the Nav Log.

TH = TC - LEFT cross wind component as derived from the E6B

TH = TC + RIGHT cross wind component as derived from the E6B



8. Now take magnetic variation into account. Copy the the variation from Table 3.1 into the *Var*. column of the Nav Log. Use the following formulas to calculate magnetic heading, and enter into the *MH* column of the Nav Log.

MH = TH + West Variation

MH = TH - East Variation

9. Locate the Compass Deviation Card in your POH, and factor in the installation and magnetic errors of the compass. Put the ± error in the *COMP DEV.* column for each Magnetic Heading. List each in the *Dev*. column of the Nav Log. Use the following formula to calculation compass heading, and list in the *CH* column of the Nav Log.

Compass Heading = MH ± Compass Deviation

CHECKRIDE FACT Use the Compass Deviation Card in your POH for your specific aircraft when planning for your checkride.

For	N	30	60	E	120	150
Steer	0	28	57	86	117	148
For	S	210	240	W	300	330
Steer	180	212	243	274	303	332

Sample Compass Deviation Card

Check Points (fixes)	VOR Ident / Freq.	Course (Route)	Altitude	Wind Dir / Vel / Temp	CAS	TC / -L+R WCA	TH / -E+W Var	MH / +/- Dev	CH
KCRG									
		290	41'	320 / 4 / 32	76	290 / -6	284 / +5	289 / -2	287
Bridges									
		290		320 / 4 / 32	76	310 / -4	306 / +5	311 / -1	310

10. List the total distance form Table 3.1 in the first box in the *Dist*. column on the Nav Log. List the distance for each leg from Table 3.1 in the *Leg* column of the Nav Log. Subtract the first leg distance from the total distance and list in the the *Rem*. column. Continue subtracting each leg from the previous *Rem*. column figure and list each the *Rem*. column.

---

11. Calculate the estimated time for each leg based on Ground Speed and Distance. Enter the value in the *ETE* column of the Nav Log. List total time enroute at the bottom of the column.

$$\text{ETE (in tenths of an hour)} = \frac{\text{Leg Distance}}{\text{Ground Speed}}$$

12. Enter your Estimated Time of Departure from Table 1.1 in the Time Off in the Nav Log. This column must list time values in Zulu time.

ETA (Waypoint 1) = ETD + ETE (to Waypoint 1)

Add ETE to the previous row's ETA to get the ETA for each waypoint.

13. Using GPH required for the Climb, Cruise, and Descent (Table 4.3), calculate Fuel Burn for each leg. If you have multiple legs in the climb or descent, divide the Fuel Burn between the legs.

Fuel Burn = ETE (in tenths of hours) x GPH

14. Add up the *ETE* column to get Total Time Enroute, and the *Fuel Burn* column to get total Fuel Burn and list in the Nav Log. Enter the Average GPH in Cruise from Table 4.4 in the GPH header field of the Nav Log.

Dist	GS	Time Off		GPH
Leg		*12:00z*		*7.9*
Rem	Est	ETE	ETA	Fuel
182	Act	ATE	ATA	Rem
5	*69*	*:07*	*12:07*	*.8*
177				*51.1*
7	*50.3*	*:09*	*12:16*	*.9*
170				*50.2*

15. Calculate legal fuel required. Daytime VFR requires 30 minutes of reserve at cruise burn. Nighttime VFR requires 45 minutes of reserve at cruise burn.

Day VFR Fuel Required = Total Fuel Burn + (Cruise Fuel Rate in GPH x 0.5)
Night VFR Fuel Required = Total Fuel Burn + (Cruise Fuel Rate in GPH x 0.75)

Complete Table 4.6 on the VFR Flight Planning Supplement Worksheet.

Destination Information

Resources

- *ForeFlight*
- *POH*
- *Airport Facility Directory (AF/D)*
- *Calculator*
- *FGA's Airworthiness Checklist*

1. Using FGA's Airworthiness Checklist, complete you weight and balance calculations for landing.

CHECKRIDE FACT	You must use the weight and balance information from the POH of your n-numbered checkride aircraft to get accurate data. Verify you are using the correct Center of Gravity Range Chart for your specific aircraft.

Arrival Weight & Balance

1. List Fuel Burn from Table 4.7. Copy the ARM of the fuel tanks, and multiply to get the MOMENT. This number will be subtracted from your starting weight and moment.
2. Add the Takeoff Weight and the Fuel Burn to get the Landing Weight. Add the MOMENTS. Divide Landing MOMENT by Landing Weight to get Landing CG.

2. Plot the Landing Weight and CG, and verify it's within limits. Draw a line from the Takeoff Weight and CG to the Landing Weight and CG, to ensure you'll be within the CG envelope for the entire flight.

Arrival Airport Information

3. To determine if you can safely land, view your arrival airport in the Airports tab in ForeFlight. Verify the information with the AF/D.

Complete Table 5.1 through 5.3 on the VFR Flight Planning Supplement Worksheet.

Landing Performance Calculations

4. Verify that you can land and stop on the runway without damaging the aircraft. Enter your Landing Distances on FGA's Airworthiness Checklist.

NOTE: Read all conditions and notes before beginning.

Often times you'll need to decrease or increase a number for nonstandard temperature, winds, or density altitude.

CHECKRIDE FACT

Use the Performance charts for the specific aircraft you will be flying in the checkride.

Older models with upgraded engines will have supplements at the end of the POH that alter performance data. Be thorough in your performance planning.

CESSNA
MODEL 172S

SECTION 5
PERFORMANCE

SHORT FIELD LANDING DISTANCE AT 2550 POUNDS

CONDITIONS:
Flaps 30°
Power Off
Maximum Braking
Paved, level, dry runway
Zero Wind
Speed at 50 Ft: 61 KIAS

Press Alt In Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst
S. L.	545	1290	565	1320	585	1350	605	1380	625	1415
1000	565	1320	585	1350	605	1385	625	1420	650	1450
2000	585	1355	610	1385	630	1420	650	1455	670	1490
3000	610	1385	630	1425	655	1460	675	1495	695	1530
4000	630	1425	655	1460	675	1495	700	1535	725	1570
5000	655	1460	680	1500	705	1535	725	1575	750	1615
6000	680	1500	705	1540	730	1580	755	1620	780	1660
7000	705	1545	730	1585	760	1625	785	1665	810	1705
8000	735	1585	760	1630	790	1670	815	1715	840	1755

NOTES:

1. Short field technique as specified in Section 4.
2. Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
3. For operation on dry, grass runway, increase distances by 45% of the "ground roll" figure.
4. If landing with flaps up, increase the approach speed by 9 KIAS and allow for 35% longer distances.

Nav Log & Checkride Documents

Resources

- *Nav Log Pages*
- *Calculator*
- *VFR Flight Planning Supplement Worksheet*
- *Printed Weather Documents*
- *Performance/W&B Documents*

You have completed all the calculations and planning required to safely make your flight. Complete the Nav Log and organize your documents for presentation.

1. In the *Notes* section of the Nav Log, copy your Cruise averages - Ground Speed, True Airspeed, Winds Aloft, and Temperatures.

2. Enter your departure airport and traffic pattern altitude from Table 2.2.

3. Refer to Table 4.4 and copy the average cruise information, including CAS. For *Fuel on Board*, subtract Start/Taxi/Takeoff Fuel from Ramp Fuel in Table 2.1 in gallons.

CRUISE							AIRPORT: *KCRG*	TPA: *941'*	
Cruise ALT	% PWR	Press ALT	Temp	TAS	IAS	GPH	Manifold Press	RPM Setting	Fuel on Board
4500'	*60%*	*4520'*	*26°C*	*109*	*114*	*7.4*	*N/A*	*1900*	*53 - 1.1 = 51.9*

4. If multiple Nav Log pages are required for your route, draw both runway airports in the runway layout boxes. If only one Nav Log page is required, include your destination runway layout.

5. Copy the departure and destination frequencies from Table 2.2 and Table 5.2. If your Nav Log is more than one page, be sure to list the frequencies on the appropriate page.

6. Fill out the VFR Flight Plan Form. If you are going to make the flight, file the flight plan using Foreflight.

CHECKRIDE FACT

Do not file or open the flight plan you planned. Since you are not actually completing this flight, filing and opening a flight plan would cause Search and Rescue Operations to be initiated 30 minutes after your destination ETA.

Notes About Flight Plans

A flight plan is filed with flight service with an estimated time of departure, and becomes void if the flight plan is not opened within 1 hour.

The flight plan can be activated in one of three ways:

1. Call the AFSS and ask for your flight plan to be activated. You can also request flight plan activation immediately after filing
2. At a tower controlled airport you can request ground control to open your flight plan for you
3. The flight plan can be activated once airborne on the local Flight Watch frequency (122.0 is the default, check for RCO's at VORs near the airport of departure and check the AFD for listed RCO frequencies.

Flight plans should be closed with the FSS upon arrival at your destination. This can be done from the air or the ground on Flight Watch frequency, by request to the tower at controlled airports, or by calling the AFSS once on the ground.

Should you not close your flight plan, the FSS will allow a half hour of "grace time" and then start search procedures. They will first call the destination to see if you've landed. They will next call any other contact numbers (aircraft home base etc.). If the aircraft cannot be located, a full Search and Rescue effort will be initiated along your route of flight. Pilots can be liable for the costs of SAR operations. Do not forget to close your flight plan.

NOTE: Pilots must always speak with a Flight Service Weather Briefer and request a briefing.

Student and Private Pilots must request a standard briefing. Instrument, Commercial students, and CFIs may request an abbreviated briefing.

7. Complete the FGA Airworthiness Checklist and preflight your aircraft prior to flight.